

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

ROBERTS, Simon, Christopher
BT Group Legal Services
Intellectual Property Department
8th Floor, Holborn Centre
120 Holborn
London EC1N 2TE
ROYAUME-UNI

Date of mailing (day/month/year)	25 April 1996 (25.04.96)
Applicant's or agent's file reference	A24908/WO
International application No.	PCT/GB95/02524
International filing date (day/month/year)	25 October 1995 (25.10.95)

IMPORTANT NOTIFICATION

1. The following indications appeared on record concerning:

☐ the applicant ☐ the inventor ☒ the agent ☐ the common representative

Name and address

ROBERTS, Simon, Christopher
BT Group Legal Services
Intellectual Property Department
13th Floor
151 Gower Street
London WC1E 6BA, GB

State of Nationality State of Residence

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☐ the name ☒ the address ☐ the nationality ☐ the residence

Name and address

ROBERTS, Simon, Christopher
BT Group Legal Services
Intellectual Property Department
8th Floor, Holborn Centre
120 Holborn
London EC1N 2TE, GB

State of Nationality State of Residence

Telephone No.

0171-492-8147

Facsimile No.

0171-242-0838

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office ☒ the designated Offices concerned
☐ the International Searching Authority ☐ the elected Offices concerned
☐ the International Preliminary Examining Authority ☐ Other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

H. Zhou

Telephone No. (41-22) 730.91.11

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference A24908/WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB 95/ 02524	International filing date (day/month/year) 25/10/1995	Priority date (day/month/year) 25/10/1994
International Patent Classification (IPC) or national classification and IPC G10L5/06		
Applicant BRITISH TELECOMMUNICATIONS plc. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This **REPORT** consists of a total of Seven sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consists of a total of _____ sheets.

3. This report contains indications and corresponding pages relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 25/04/1996	Date of completion of this report 28. 01. 97
Name and mailing address of the IPEA/  European Patent Office D-80298 Munich Tel. (+49-89) 2399-0, Tx: 523656 epmu d Fax: (+49-89) 2399-4465	Authorized officer <i>C. La Gioia</i> C. La Gioia Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Intern. application No.

PCT/GB95/02524

I. Basis of the report

1. This report has been drawn up on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

☒ the international application as originally filed.

☐ the description, pages _____, as originally filed,
pages _____, filed with the demand,
pages _____, filed with the letter of _____,
pages _____, filed with the letter of _____.

☐ the claims, Nos. _____, as originally filed,
Nos. _____, as amended under Article 19,
Nos. _____, filed with the demand,
Nos. _____, filed with the letter of _____,
Nos. _____, filed with the letter of _____.

☐ the drawings, sheets/fig _____, as originally filed,
sheets/fig _____, filed with the demand,
sheets/fig _____, filed with the letter of _____,
sheets/fig _____, filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

☐ the description, pages _____.
☐ the claims, Nos. _____.
☐ the drawings, sheets/fig _____.

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been and will not be examined in respect of:

☐ the entire international application,

☒ claims Nos. 12-19, 26, 33_____

because:

☐ the said international application, or the said claims Nos. _____ relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (indicate particular elements below) or said claims Nos. _____ are so unclear that no meaningful opinion could be formed (specify):

☐ the claims, or said claims Nos. _____ are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 12-19, 26, 33_____.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 3, 4, 23-25, 30-32_____	YES
	Claims 1, 2, 5-11, 20-22, 27-29_____	NO
Inventive Step (IS)	Claims 3, 4, 23-25, 30-32_____	YES
	Claims 1, 2, 5-11, 20-22, 27-29_____	NO
Industrial Applicability (IA)	Claims 1-11, 20-25, 27-32_____	YES
	Claims _____	NO

2. CITATIONS AND EXPLANATIONS

A. The following documents have been considered for the purposes of this report:

D1 = EP 0 299 572

D2 = US 5 202 952

D3 = GB 2 165 969

B. The present application does not satisfy the criterion set forth in Article 33(2) PCT because the subject-matter of claims 1, 2, 5 to 11, 20 to 22, and 27 to 29 is not new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT), for the following reasons.

B.1 D1 discloses all the features of independent claims 1, 20 to 22, 27 and 28 (see D1, col. 1, line 1 to col. 4, line 14; col. 9, line 50 to col. 10, line 17 and figure

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

1). D1 in fact discloses a speech recognition apparatus which identifies one or more words from a first set and uses the identified words to generate a list of all words from a second set that are linked thereto, the following speech recognition step being carried out on the so generated list of words.

Therefore the subject-matter of independent claims 1, 20 to 22, 27 and 28 is not new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT).

B.2 It is also briefly observed that D1 discloses the additional features introduced in dependent claims 2, 5 to 11 and 29.

Therefore dependent claims 2, 5 to 11 and 29 do not introduce any new subject-matter.

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

- A. Reference signs in parentheses should have been inserted in the claims to increase their intelligibility, Rule 6.2(b) PCT.

- B. The documents D1 to D3 have not been identified in the description nor has the relevant background art disclosed therein been discussed. The requirements of Rule 5.1(a)(ii) PCT are, thus, not fulfilled.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- A. The numerous definitions of the invention given in independent claims 1, 20 to 22 and 27 for the apparatus aspect of the invention are such that the claims as a whole are not clear and concise, contrary to Article 6 PCT.

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark
Office
(Box PCT)
Washington D.C. 20231
United States of America

in its capacity as elected Office

Date of mailing (day/month/year)

14 May 1996 (14.05.96)

International application No.

PCT/GB95/02524

Applicant's or agent's file reference

A24908/WO

International filing date (day/month/year)

25 October 1995 (25.10.95)

Priority date (day/month/year)

25 October 1994 (25.10.94)

Applicant

ATTWATER, David, John et al

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

25 April 1996 (25.04.96)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

H. Zhou

Telephone No.: (41-22) 730.91.11

PATENT COOPERATION TREATY

PCT

COMMUNICATION OF
INTERNATIONAL APPLICATIONS

(PCT Article 20)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark
Office
(Box PCT)
Crystal Plaza 2
Washington, DC 20231
ETATS-UNIS D'AMERIQUE

Date of mailing:

08 August 1996 (08.08.96)

in its capacity as designated Office

The International Bureau transmits herewith copies of the international applications having the following international application numbers and international publication numbers:

International application no.:

PCT/GB95/02524

International publication no.:

WO96/13030

**CORRECTED VERSION
VERSION CORRIGEE**

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer:

J. Zahra

Telephone No.: (41-22) 730.91.11

Copy for the Elected Office (EO/US)
PATENT COOPERATION TREATY

PCT/GB95/02524

PCT

**NOTIFICATION OF THE RECORDING
OF A CHANGE**

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

HIBBERT, Juliet, Jane, Grace
BT Group Legal Services
Intellectual Property Department
8th floor, Holborn Centre
120 Holborn
London EC1N 2TE
ROYAUME-UNI

Date of mailing (day/month/year) 29 August 1996 (29.08.96)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference A24908/WO	
International application No. PCT/GB95/02524	International filing date (day/month/year) 25 October 1995 (25.10.95)

1. The following indications appeared on record concerning:

☐ the applicant ☐ the inventor ☒ the agent ☐ the common representative

Name and Address ROBERTS, Simon, Christopher BT Group Legal Services Intellectual Property Department 8th floor, Holborn Centre 120 Holborn London EC1N 2TE United Kingdom	State of Nationality	State of Residence
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person ☐ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address HIBBERT, Juliet, Jane, Grace BT Group Legal Services Intellectual Property Department 8th floor, Holborn Centre 120 Holborn London EC1N 2TE United Kingdom	State of Nationality	State of Residence
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☒ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer H. Zhou Telephone No.: (41-22) 730.91.11
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08/817673

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference A24908/WO	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB95/02524	International filing date (day/month/year) 25/10/95	(Earliest) Priority Date (day/month/year) 25/10/94
Applicant BRITISH TELECOMMUNICATIONS plc. et al.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. ☐ Certain claims were found unsearchable (see Box I).

2. ☒ Unity of invention is lacking (see Box II).

3. ☐ The international application contains disclosure of a nucleotide and/or amino acid sequence listing and the international search was carried out on the basis of the sequence listing

☐ filed with the international application.

☐ furnished by the applicant separately from the international application,

☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.

☐ Transcribed by this Authority

4. With regard to the title, ☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is:

Figure No. 2 ☒ as suggested by the applicant.

☐ None of the figures.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 95/02524

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G10L5/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 G10L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP,A,0 299 572 (PHILIPS) 18 January 1989	1,2, 5-11, 20-22, 27-29
Y	see page 2 - page 3, column 4, line 14 ---	3
P,Y	EP,A,0 625 758 (IBM) 23 November 1994 see page 6, line 42 - page 7 ---	3
A	US,A,5 202 952 (GILLICK ET AL.) 13 April 1993 see column 5, line 21 - column 6, line 10 ---	4
A	GB,A,2 165 969 (BRITISH TELECOM) 23 April 1986 see page 1, line 33 - line 54 --- -/--	1,20-22, 27,28

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

5 March 1996

Date of mailing of the international search report

31.05.96

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+ 31-70) 340-3016

Authorized officer

LANGE, J

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 95/02524

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP,A,0 269 233 (SMITHS INDUSTRIES) 1 June 1988 see page 2 - page 3, column 4, line 4 ---	1,20-22, 27,28
A	EUROSPEECH 89, PARIS, FR, 26.-28. 9. 1989, vol.9, no.5-6, ISSN 0167-6393, SPEECH COMMUNICATION, DEC. 1990, NETHERLANDS pages 551 - 564, XP002000047 YOUNG 'Use of dialogue, pragmatics and semantics to enhance speech recognition' see paragraph 2.1 see paragraph 2.2 -----	1,20-22, 27,28

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB95/ 02524

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. CLAIMS : 1-11,20-25,27-32
2. CLAIMS : 12-19
3. CLAIMS : 26
4. CLAIMS : 33

For further information see form PCT/ISA/206 mailed 08.03.96

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-11, 20-25, 27-32

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

International Patent Application PCT/GB/02524

The claims of the present application do not fulfill the requirement of unity of invention (Rule 13 PCT). The reasons are as follows:

The document which is considered to be the closest prior art is EP299572 (D1). The independent claims 1, 12, 15, 16, 20, 21, 22, 26, 27 and 28 have in common the feature of an identification apparatus (in a broad sense) which uses additional information for limiting the space of possibilities to search.

This concept, however, is known from D1. Here, on page 2 and the left column of page 3, a speech recogniser is described which uses different lists to reduce the search space according to syntactic categories (= additional information).

The independent claim 21 does not have any special technical feature above the prior art because the broader term "pattern recogniser" does not add anything to the features described in claim 20 which are known from D1.

The independent claim 33 shares with the others only the vague feature of identification of any data which is also known e.g. from EP299572.

I. Therefore the independent claims can be grouped according to their special technical features apart from these known concepts.

1. claims 1-11, 20-25, 27-32 :

All the technical features from claims 1-2 are known from D1. So the technical problem in the light of this document is to construct a speech recogniser taking into account the number of syntactic connections between words (claim 3). This is solved by employing lists of connected words to restrict the search space and so providing additional syntactic information.

2. claims 12-19 :

deal with the problem to construct a speech recogniser resp. a speaker recogniser/verifier (cl. 15) using additional information to enhance the recognition rate. This is solved by using information about the origin of a telephone call.

3. claim 26 :

deals with the problem to provide a method of data retrieval using additional information to enhance the retrieval rate. This is solved by employing lists of connected data to restrict the search space and so providing additional syntactic information.

4. claim 33 :

The problem is to provide a method of speech recognition dealing with unreliable recognition results. The solution is to fall back to stored speech data and employing another recognition process therewith.

II. There is no feature common to two of the groups, which could be considered as a special technical feature within the meaning of PCT Rule 13.2, second sentence. Thus no technical relationship within the meaning of PCT Rule 13 between any two or more of the groups of inventions can be seen.

III. Consequently it appears that, a posteriori, the claims 1, 12, 15, 16, 20, 22, 26-28 and 33 do not fulfill the requirements of PCT rule 13.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 95/02524

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-0299572	18-01-89	DE-A- 3723078 DE-D- 3886111 JP-A- 1078299 US-A- 4947438	19-01-89 20-01-94 23-03-89 07-08-90
EP-A-0625758	23-11-94	GB-A- 2277387 JP-A- 7093372	26-10-94 07-04-95
US-A-5202952	13-04-93	CA-A- 2085895 EP-A- 0535146 JP-T- 6501319 WO-A- 9200585	23-12-91 07-04-93 10-02-94 09-01-92
GB-A-2165969	23-04-86	NONE	
EP-A-0269233	01-06-88	GB-A- 2198572	15-06-88



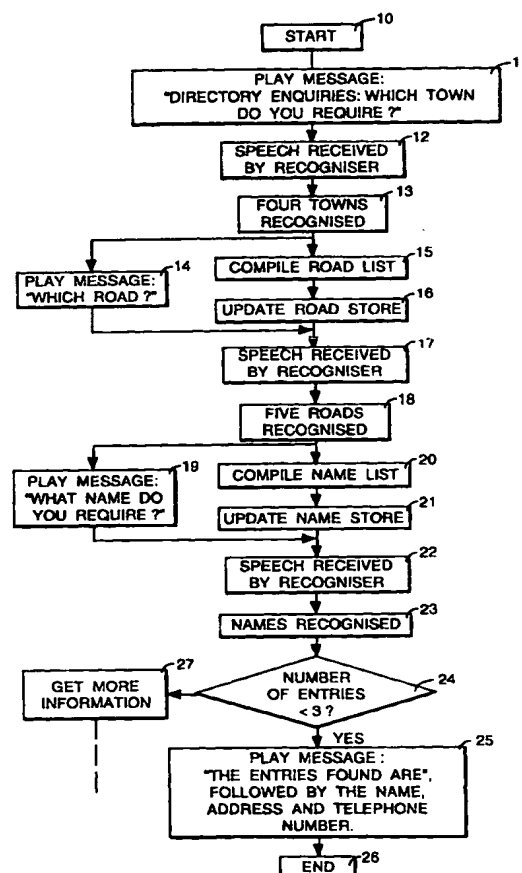
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G10L 5/06		A3	(11) International Publication Number: WO 96/13030
			(43) International Publication Date: 2 May 1996 (02.05.96)
(21) International Application Number: PCT/GB95/02524		(81) Designated States: AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, LS, MW, SD, SZ, UG).	
(22) International Filing Date: 25 October 1995 (25.10.95)			
(30) Priority Data: 94307843.6 25 October 1994 (25.10.94) AT			
(71) Applicant (for all designated States except US): BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY [GB/GB]; 81 Newgate Street, London, EC1A 7AJ (GB).		Published <i>With international search report.</i>	
(72) Inventors; and (75) Inventors/Applicants (for US only): ATTWATER, David, John [GB/GB]; 154 Cavendish Street, Ipswich, Suffolk IP3 8BG (GB). WHITTAKER, Steven, John [GB/GB]; 53 Bristol Road, Ipswich, Suffolk IP4 4LP (GB). SCAHILL, Francis, James [GB/GB]; 39 Manor Road, Martlesham Heath, Ipswich, Suffolk IP5 75X (GB). SIMONS, Alison, Diane [GB/GB]; 117 Faulkeners Way, Trimley St. Mary, Ipswich, Suffolk IP10 0FF (GB).		(88) Date of publication of the international search report: 8 August 1996 (08.08.96)	
(74) Agent: ROBERTS, Simon, Christopher; BT Group Legal Services, Intellectual Property Dept., 13th floor, 151 Gower Street, London, WC1E 6BA (GB).			

(54) Title: VOICE-OPERATED SERVICES

(57) Abstract

A method and apparatus for accessing a database where entries are linked to at least two sets of patterns. Recognition means recognise within a received signal one or more patterns of a first set of patterns. The recognised patterns are used to identify entries and compile a list of patterns in a second set of patterns to which those entries are also linked. The list is then used to recognise a second received signal. The received signals may, for example, be voice signals or signals indicating the origin or destination of the received signals.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	GB	United Kingdom	MR	Mauritania
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DE	Germany	MD	Republic of Moldova	TT	Trinidad and Tobago
DK	Denmark	MG	Madagascar	UA	Ukraine
ES	Spain	ML	Mali	US	United States of America
FI	Finland	MN	Mongolia	UZ	Uzbekistan
FR	France			VN	Viet Nam
GA	Gabon				

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB 95/02524

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G10L5/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 G10L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP,A,0 299 572 (PHILIPS) 18 January 1989	1,2, 5-11, 20-22, 27-29
Y	see page 2 - page 3, column 4, line 14 ---	3
P,Y	EP,A,0 625 758 (IBM) 23 November 1994 see page 6, line 42 - page 7 ---	3
A	US,A,5 202 952 (GILLICK ET AL.) 13 April 1993 see column 5, line 21 - column 6, line 10 ---	4
A	GB,A,2 165 969 (BRITISH TELECOM) 23 April 1986 see page 1, line 33 - line 54 ---	1,20-22, 27,28
	-/--	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- * "A" document defining the general state of the art which is not considered to be of particular relevance
- * "E" earlier document but published on or after the international filing date
- * "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- * "O" document referring to an oral disclosure, use, exhibition or other means
- * "P" document published prior to the international filing date but later than the priority date claimed

- * "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- * "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- * "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- * "&" document member of the same patent family

Date of the actual completion of the international search

5 March 1996

Date of mailing of the international search report

31.05.96

Name and mailing address of the ISA

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Authorized officer

LANGE, J

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP,A,0 269 233 (SMITHS INDUSTRIES). 1 June 1988 see page 2 - page 3, column 4, line 4 ---	1,20-22, 27,28
A	EUROSPEECH 89, PARIS, FR, 26.-28. 9. 1989, vol.9, no.5-6, ISSN 0167-6393, SPEECH COMMUNICATION, DEC. 1990, NETHERLANDS pages 551 - 564, XP002000047 YOUNG 'Use of dialogue, pragmatics and semantics to enhance speech recognition' see paragraph 2.1 see paragraph 2.2 -----	1,20-22, 27,28

International Patent Application PCT/GB/02524

The claims of the present application do not fulfill the requirement of unity of invention (Rule 13 PCT). The reasons are as follows:

The document which is considered to be the closest prior art is EP299572 (D1). The independent claims 1, 12, 15, 16, 20, 21, 22, 26, 27 and 28 have in common the feature of an identification apparatus (in a broad sense) which uses additional information for limiting the space of possibilities to search.

This concept, however, is known from D1. Here, on page 2 and the left column of page 3, a speech recogniser is described which uses different lists to reduce the search space according to syntactic categories (= additional information).

The independent claim 21 does not have any special technical feature above the prior art because the broader term "pattern recogniser" does not add anything to the features described in claim 20 which are known from D1.

The independent claim 33 shares with the others only the vague feature of identification of any data which is also known e.g. from EP299572.

I. Therefore the independent claims can be grouped according to their special technical features apart from these known concepts.

1. claims 1-11, 20-25, 27-32 :

All the technical features from claims 1-2 are known from D1. So the technical problem in the light of this document is to construct a speech recogniser taking into account the number of syntactic connections between words (claim 3). This is solved by employing lists of connected words to restrict the search space and so providing additional syntactic information.

2. claims 12-19 :

deal with the problem to construct a speech recogniser resp. a speaker recogniser/verifier (cl. 15) using additional information to enhance the recognition rate. This is solved by using information about the origin of a telephone call.

3. claim 26 :

deals with the problem to provide a method of data retrieval using additional information to enhance the retrieval rate. This is solved by employing lists of connected data to restrict the search space and so providing additional syntactic information.

4. claim 33 :

The problem is to provide a method of speech recognition dealing with unreliable recognition results. The solution is to fall back to stored speech data and employing another recognition process therewith.

II. There is no feature common to two of the groups, which could be considered as a special technical feature within the meaning of PCT Rule 13.2, second sentence. Thus no technical relationship within the meaning of PCT Rule 13 between any two or more of the groups of inventions can be seen.

III. Consequently it appears that, a posteriori, the claims 1, 12, 15, 16, 20, 22, 26-28 and 33 do not fulfill the requirements of PCT rule 13.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB95/02524

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. CLAIMS : 1-11,20-25,27-32
2. CLAIMS : 12-19
3. CLAIMS : 26
4. CLAIMS : 33

For further information see form PCT/ISA/206 mailed 08.03.96

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-11,20-25,27-32

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 95/02524

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-0299572	18-01-89	DE-A- 3723078 DE-D- 3886111 JP-A- 1078299 US-A- 4947438	19-01-89 20-01-94 23-03-89 07-08-90
EP-A-0625758	23-11-94	GB-A- 2277387 JP-A- 7093372	26-10-94 07-04-95
US-A-5202952	13-04-93	CA-A- 2085895 EP-A- 0535146 JP-T- 6501319 WO-A- 9200585	23-12-91 07-04-93 10-02-94 09-01-92
GB-A-2165969	23-04-86	NONE	
EP-A-0269233	01-06-88	GB-A- 2198572	15-06-88

PCT


INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference A24908/WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB 95/ 02524	International filing date (day/month/year) 25/10/1995	Priority date (day/month/year) 25/10/1994	
International Patent Classification (IPC) or national classification and IPC G10L5/06			
Applicant BRITISH TELECOMMUNICATIONS plc. et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of Seven sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consists of a total of _____ sheets.

3. This report contains indications and corresponding pages relating to the following items:
- I ☒ Basis of the report
 - II ☐ Priority
 - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☒ Certain defects in the international application
 - VIII ☒ Certain observations on the international application

Date of submission of the demand 25/04/1996	Date of completion of this report 28. 01. 97
Name and mailing address of the IPEA/  European Patent Office D-80298 Munich Tel. (+49-89) 2399-0, Tx: 523656 epmu d Fax: (+49-89) 2399-4465	Authorized officer <i>C. La Gioia</i> C. La Gioia Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

I. Basis of the report

1. This report has been drawn up on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

☒ the international application as originally filed.

☐ the description, pages _____, as originally filed,
pages _____, filed with the demand,
pages _____, filed with the letter of _____,
pages _____, filed with the letter of _____.

☐ the claims, Nos. _____, as originally filed,
Nos. _____, as amended under Article 19,
Nos. _____, filed with the demand,
Nos. _____, filed with the letter of _____,
Nos. _____, filed with the letter of _____.

☐ the drawings, sheets/fig _____, as originally filed,
sheets/fig _____, filed with the demand,
sheets/fig _____, filed with the letter of _____,
sheets/fig _____, filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

☐ the description, pages _____.
☐ the claims, Nos. _____.
☐ the drawings, sheets/fig _____.

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Intern. application No.

PCT/GB95/02524

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been and will not be examined in respect of:

☐ the entire international application,

☒ claims Nos. 12-19, 26, 33 _____

because:

☐ the said international application, or the said claims Nos. _____ relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (indicate particular elements below) or said claims Nos. _____ are so unclear that no meaningful opinion could be formed (specify):

☐ the claims, or said claims Nos. _____ are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 12-19, 26, 33 _____.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Intern. application No.

PCT/GB95/02524

✓ Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 3, 4, 23-25, 30-32_____	YES
	Claims 1, 2, 5-11, 20-22, 27-29_____	NO
Inventive Step (IS)	Claims 3, 4, 23-25, 30-32_____	YES
	Claims 1, 2, 5-11, 20-22, 27-29_____	NO
Industrial Applicability (IA)	Claims 1-11, 20-25, 27-32_____	YES
	Claims _____	NO

2. CITATIONS AND EXPLANATIONS

A. The following documents have been considered for the purposes of this report:

D1 = EP 0 299 572

D2 = US 5 202 952

D3 = GB 2 165 969

B. The present application does not satisfy the criterion set forth in Article 33(2) PCT because the subject-matter of claims 1, 2, 5 to 11, 20 to 22, and 27 to 29 is not new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT), for the following reasons.

B.1 D1 discloses all the features of independent claims 1, 20 to 22, 27 and 28 (see D1, col. 1, line 1 to col. 4, line 14; col. 9, line 50 to col. 10, line 17 and figure

1). D1 in fact discloses a speech recognition apparatus which identifies one or more words from a first set and uses the identified words to generate a list of all words from a second set that are linked thereto, the following speech recognition step being carried out on the so generated list of words.

Therefore the subject-matter of independent claims 1, 20 to 22, 27 and 28 is not new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT).

B.2 It is also briefly observed that D1 discloses the additional features introduced in dependent claims 2, 5 to 11 and 29.

Therefore dependent claims 2, 5 to 11 and 29 do not introduce any new subject-matter.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

- A. Reference signs in parentheses should have been inserted in the claims to increase their intelligibility, Rule 6.2(b) PCT.

- B. The documents D1 to D3 have not been identified in the description nor has the relevant background art disclosed therein been discussed. The requirements of Rule 5.1(a)(ii) PCT are, thus, not fulfilled.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- A. The numerous definitions of the invention given in independent claims 1, 20 to 22 and 27 for the apparatus aspect of the invention are such that the claims as a whole are not clear and concise, contrary to Article 6 PCT.